

Defense Threat Reduction Agency

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Corrective Measures Study/Feasibility Study for the Disposition of Metal/Concrete Debris and Radioactive Coral (above 13.5 pCi/g)

**Located in the Radiological Control Area
on Johnston Island, Johnston Atoll**



Notice

This document is intended to comply with the
National Environmental Policy Act of 1969.

Draft final for public comment

**CORRECTIVE MEASURES STUDY/FEASIBILITY STUDY
FOR THE DISPOSITION OF
METAL/CONCRETE DEBRIS
AND
RADIOACTIVE CORAL (above 13.5 pCi/g)
LOCATED IN THE RADIOLOGICAL CONTROL AREA ON
JOHNSTON ISLAND, JOHNSTON ATOLL**

1 June 2002

Defense Threat Reduction Agency

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MEETINGS**

Acronyms and Abbreviations

ADL	Arthur D. Little, Inc.
AEC	Atomic Energy Commission
Am	Americium
ANS	American Nuclear Systems
ASTM	American Society for Testing and Materials
Bq	becquerel
Ca	Calcium
CaCO ₃	Calcium Carbonate
cc	cubic centimeters
CEDE	Committed Effective Dose Equivalent
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cGy	centigray
Ci	curies
CI	confidence interval
Cm	Curium
cm	centimeter
cm ²	centimeters squared
CMS	Corrective Measures Study
CaCO ₃	Calcium Carbonate
cpm	counts per minute
Cu	Copper
DERP	Defense Environmental Restoration Program
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
dpm	disintegrations per minute
DTRA	Defense Threat Reduction Agency
EPA	U.S. Environmental Protection Agency
F	Fahrenheit
f1	the fraction of the ingested compound of the element which is absorbed in the blood
fCi/m ³	femtocuries per cubic meter
Fe	Iron
FIDLER	Field Instrument for the Detection of Low-Energy Radiation
FS	Feasibility Study
ft	feet
g	gram
GPS	Global Positioning System
Gy	gray
HCl	Hydrochloric acid
hrs	hours
HSA	Historical Site Assessment
IAEA	International Atomic Energy Agency

ICRP	International Commission on Radiation Protection
in	inch
JA	Johnston Atoll
JI	Johnston Island
JACADS	Johnston Atoll Chemical Agent Disposal System
JANWR	Johnston Atoll National Wildlife Refuge
JTF	Joint Task Force
keV	kiloelectron volt
kg	kilogram
km	kilometer
LAC	Linear Attenuation Coefficient
LE-1	Launch Emplacement 1
LUC	land use control
m	meter
MAC	Mass Attenuation Coefficient
MCA	multi-channel analyzer
MDA	minimum detectable activity
MeV	megaelectron volt
mg	milligrams
mi	mile
Mg	magnesium
ml	milliliter
mrem	millirem
mS	millisiemens
mSv	millisievert
MT	metric ton
Nal	Sodium Iodide
NaOH	Sodium Hydroxide
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NRC	U.S. Nuclear Regulatory Commission
NTS	Nevada Test Site
OD	outside diameter
ORNL	Oak Ridge National Laboratories
Pb	Lead
pCi/g	picocuries/gram
pCi/L	picocuries/liter
psi	pounds per square inch
Pu	plutonium
PuO ₂	plutonium oxide
PVC	polyvinylchloride
QA	quality assurance
QC	quality control
RCA	Radiological Control Area
rem	roentgen-equivalent-man (unit of radiation dose equivalent)
RFETS	Rocky Flats Environmental Technology Site

RCRA	Resource Conservation and Recovery Act
RO	reverse osmosis
RSO	Range Safety Officer
SAP	Sampling and Analysis Plan
SD-GPS	Raytheon Raychart 320 Satellite Differential Global Positioning System
SGS	Segmented Gate System
SI	International System of Units
SNL	Sandia National Laboratories
sp.	specie
spp.	species
SQ	Significant Quantity
Sv	sievert
TRU	alpha-emitting transuranics (greater than atomic number 92) present in warhead materials (^{241}Am , ^{244}Cm , ^{238}Pu , ^{239}Pu / ^{240}Pu , and ^{242}Pu)
μCi	microcurie
μGy	microgray
U.S.	United States
USACOE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
WGP	weapons grade plutonium
yr	year

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